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TITLE : RARE EARTH MAGNET

ABSTRACT : PROBLEM TO BE SOLVED: To provide a highly efficient isotropic magnet, by a method wherein the magnet powder, containing rare earth metal, iron and boron, is bonded by an organic resin bonding material, and the magnet powder is used in the specific weight percent or higher.

SOLUTION: A compositional alloy consisting of Nd and B and the remaining part of Fe and inevitable impurities is fused in a high frequency dissolving furnace, and ribbon-like thin band powder is obtained by a super-quenching method. Then, raw material is crushed in a ball mill, and it is powdered in an attritor mill. Then, the thermosetting resin of epoxy resin and phenol resin are selected as a binder, magnet powder of 85 wt.% or more is mixed, and they are mixed by an automatic kneading machine. Then, the material is put in a metal mold, and it is molded by a uniaxial oilhydraulic press using a diefloating system. Also, a part of iron is replaced with the transition metal of cobalt, manganese, nickel, niobium or chrome.

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